

**IN THE CLAIMS:**

Please cancel claims 3, 12 and 21 and amend the remaining claims as follows:

1. (Currently Amended) A method for a coordinated bringup of a repaired storage appliance in a storage appliance cluster, the repaired storage appliance having a disk subsystem, the method comprising the steps of:
  - 4     asserting a GIVEWAIT first state in a predetermined memory location of the repaired storage appliance, the first state indicating that the repaired storage appliance awaits release of disk reservations of the disk subsystem by a surviving storage appliance;
  - 5     releasing the disk reservations in response to detection of the asserted GIVE-
  - 6     WAIT first state by a the surviving storage appliance;
  - 7     initializing the disk subsystem of the repaired storage appliance;
  - 11    asserting a MBWAIT second state in the predetermined memory of the repaired
  - 12    storage appliance location, the second state indicating that the repaired storage appliance
  - 13    has initialized the disk subsystem; and
  - 14    performing a giveback operation by the surviving storage appliance in response to
  - 15    detecting the MBWAIT second state.
1. 2. (Original) The method of claim 1 further comprising the steps of:
  - 2     completing the repaired storage appliance initialization; and
  - 3     processing data access requests by the repaired storage appliance.
1. 3. (Cancelled)

1    4. (Currently Amended) The method of claim 1 wherein the surviving storage ap-  
2    pliance detects the GIVEWAIT-first state by performing a remote direct memory access  
3    read operation to the predetermined-memory-location.

1    5. (Currently Amended) The method of claim 1 wherein the surviving storage ap-  
2    pliance detects the MBWAIT-second state by performing a remote direct memory access  
3    operation of the predetermined-memory-location.

1    6. (Original) The method of claim 1 wherein the surviving storage appliance ceases  
2    to process data access requests directed to the repaired storage appliance after performing  
3    the giveback operation.

1    7. (Currently Amended) A storage appliance for use in a storage system cluster, the  
2    storage appliance comprising:

3                 a storage operating system having a cluster failover layer adapted to perform a  
4                 coordinated bringup operation in association with a partner storage appliance, wherein  
5                 the coordinated bringup operation comprises the steps of:

6                 (i) asserting a first state in a predetermined-memory location of the storage  
7                 appliance;

8                 (ii) initializing a disk subsystem of the repaired storage appliance in re-  
9                 sponse to detecting a release of disk reservations by a partner storage appliance;

10                (iii) asserting a second state in the predetermined-memory-location of the  
11                storage appliance;

12                (iv) processing data access requests directed to the storage appliance after  
13                a giveback operation performed by the partner storage appliance; and

14                whereby a period of time during which clients of the storage system are without  
15                connectivity is minimized.

1    8. (Currently Amended) The storage appliance of claim 6-7 wherein the cluster  
2    failover layer is further adapted to perform routine remote direct ~~and~~ memory access read  
3    operations to the partner storage appliance to detect a state of the partner storage appli-  
4    ance.

1    9. (Currently Amended) The storage appliance of claim 8 wherein the second state  
2    comprises a ~~MBWAIT state~~ an indication that the storage appliance has initialized its  
3    disk subsystem.

1    10. (Currently Amended) The storage appliance of claim 8 wherein the first state  
2    comprises a ~~GIVEWAIT state~~ an indication that the storage appliance awaits release of  
3    disk reservations by the partner storage appliance.

1    11. (Currently Amended) A method for a coordinated bringup of a repaired storage  
2    appliance in a storage appliance cluster, the repaired storage appliance having a disk sub-  
3    system, the method comprising the steps of:

4        asserting a first state in ~~a predetermined memory location~~ of the repaired storage  
5    appliance;

6        releasing disk reservations in response to detection of the asserted first state by a  
7    surviving storage appliance;

8        initializing the disk subsystem of the repaired storage appliance;

9        asserting a second state in ~~the predetermined memory location of the repaired~~  
10    storage appliance; and

11        performing a giveback operation by the surviving storage appliance in response to  
12    detecting the second state.

13

1    12. (Cancelled)

1    13. (Original) The method of claim 11 wherein the surviving storage appliance de-  
2    tects the first state by performing a remote direct memory access read operation to the  
3    predetermined memory location.

1    14. (Original) The method of claim 11 wherein the surviving storage appliance de-  
2    tects the second state by performing a remote direct memory access operation of the pre-  
3    determined memory location.

1    15. (Original) The method of claim 11 wherein the surviving storage appliance  
2    ceases to process data access requests directed to the repaired storage appliance after per-  
3    forming the giveback operation.

1    16. (Currently Amended) The method of claim 11 wherein the first state comprises  
2    an indication that the repaired storage appliance awaits release of disk reservations by the  
3    surviving storage appliance a GIVEWAIT state.

1    17. (Currently Amended) The method of claim 11 wherein the second state com-  
2    prises an indication that the repaired storage appliance has initialized its disk subsystem .  
3    a MBWAIT state.

1    18. (Original) The method of claim 11 wherein the set of disk reservations com-  
2    prises small computer systems interface reservations.

1    19. (Currently Amended) A computer readable medium, including program instruc-  
2    tions executing on a storage appliance, for a coordinated bringup of a repaired storage  
3    appliance in a storage appliance cluster, the repaired storage appliance having a disk sub-  
4    system, the computer readable medium including instructions for performing the steps of:

5 asserting a GIVEWAIT first state in a predetermined memory location of the re-  
6 paired storage appliance, the first state indicating that the repaired storage appliance  
7 awaits release of disk reservations by a surviving storage appliance;  
8 releasing disk reservations in response to detection of the asserted GIVEWAIT  
9 first state by a surviving storage appliance;  
10 initializing the disk subsystem of the repaired storage appliance;  
11 asserting a MBWAIT second state in the predetermined memory location of the  
12 repaired storage appliance, the second state indicating that the repaired storage appliance  
13 has initialized its disk subsystem; and  
14 performing a giveback operation by the surviving storage appliance in response to  
15 detecting the MBWAIT second state.

1 20. (Original) The computer readable medium of claim 19 further comprising the  
2 steps of:  
3 completing the repaired storage appliance initialization; and  
4 processing data access requests by the repaired storage appliance.

1 21. (Cancelled)

1 22. (Currently Amended) The computer readable medium of claim 19 wherein the  
2 surviving storage appliance detects the GIVEWAIT first state by performing a remote  
3 direct memory access read operation to the predetermined memory location of the re-  
4 paired storage appliance.

1 23. (Currently Amended) The computer readable medium of claim 19 wherein the  
2 surviving storage appliance detects the MBWAIT second state by performing a remote  
3 direct memory access operation of the predetermined memory location of the repaired  
4 storage appliance.

1    24. (New) A method for a coordinated bringup of a repaired storage appliance in a  
2    storage appliance cluster, the method comprising the steps of:

3           asserting a first state indicating that the repaired storage appliance awaits release,  
4    by a surviving storage appliance, of disk reservations for a disk subsystem of the repaired  
5    storage appliance;

6           releasing the disk reservations in response to detection of the asserted first state  
7    by the surviving storage appliance;

8           initializing the disk subsystem of the repaired storage appliance in response to re-  
9    leasing the disk reservations by the surviving storage appliance;

10          asserting a second state indicating that the repaired storage appliance has initial-  
11    ized the disk subsystem; and

12          performing a giveback operation by the surviving storage appliance in response to  
13    detecting the second state.

1    25. (New) The method of claim 24, wherein the first state and second state are  
2    stored in a state data structure in memory of the repaired storage appliance.

1    26. (New) The method of claim 25 wherein the surviving storage appliance detects  
2    the first state by performing a remote direct memory access read operation to the state  
3    data structure.

1    27. (New) The method of claim 25 wherein the surviving storage appliance detects  
2    the second state by performing a remote direct memory access operation to the state data  
3    structure.

1    28. (New) A storage appliance for use in a storage system cluster, the storage appli-  
2    ance comprising:

3           a storage operating system having a cluster failover layer adapted to perform a  
4 coordinated bringup operation in association with a partner storage appliance, wherein  
5 the coordinated bringup operation comprises the steps of:

6           asserting a first state indicating that the repaired storage appliance awaits release,  
7 by a surviving storage appliance, of disk reservations for a disk subsystem of the repaired  
8 storage appliance;

9           releasing the disk reservations in response to detection of the asserted first state  
10 by the surviving storage appliance;

11           initializing the disk subsystem of the repaired storage appliance in response to re-  
12 leasing the disk reservations by the surviving storage appliance;

13           asserting a second state indicating that the repaired storage appliance has initial-  
14 ized the disk subsystem; and

15           performing a giveback operation by the surviving storage appliance in response to  
16 detecting the second state.

1     29. (New) The storage appliance of claim 28, wherein the first state and second state  
2 are stored in a state data structure in memory of the repaired storage appliance.

1     30. (New) The storage appliance of claim 29 wherein the surviving storage appliance  
2 detects the first state by performing a remote direct memory access read operation to the  
3 state data structure.

1     31. (New) The storage appliance of claim 29 wherein the surviving storage appli-  
2 ance detects the second state by performing a remote direct memory access operation to  
3 the state data structure.

1     32. (New) A computer readable medium, including program instructions executing  
2 on a storage appliance, for a coordinated bringup of a repaired storage appliance in a

3 storage appliance cluster, the computer readable medium including instructions for per-  
4 forming the steps of:

5 asserting a first state indicating that the repaired storage appliance awaits release,  
6 by a surviving storage appliance, of disk reservations for a disk subsystem of the repaired  
7 storage appliance;

8 releasing the disk reservations in response to detection of the asserted first state  
9 by the surviving storage appliance;

10 initializing the disk subsystem of the repaired storage appliance in response to re-  
11 leasing the disk reservations by the surviving storage appliance;

12 asserting a second state indicating that the repaired storage appliance has initial-  
13 ized the disk subsystem; and

14 performing a giveback operation by the surviving storage appliance in response to  
15 detecting the second state.

1 33. (New) The computer readable medium of claim 32, wherein the first state and  
2 second state are stored in a state data structure in memory of the repaired storage appli-  
3 ance.

1 34. (New) The method of claim 33 wherein the surviving storage appliance detects  
2 the first state by performing a remote direct memory access read operation to the state  
3 data structure.

1 35. (New) The method of claim 33 wherein the surviving storage appliance detects  
2 the second state by performing a remote direct memory access operation to the state data  
3 structure.